

STATEMENT OF WORK FOR
Headquarters Optimization Support TO 0066

Modification #8 for FY2017

Biggs 013117

Summary of Changes: Adds scope expansion and funding of \$350,000 to complete ongoing work under the task, and to start additional optimization events during 2017.

CHANGES TO THIS TASK ORDER ARE IDENTIFIED IN RED

I. BACKGROUND INFORMATION

The mission of EPA is to protect human health and the environment. Office of Land and Emergency Management (OLEM) is an Agency component that is responsible for programs articulated under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or Superfund) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986; the Resource Conservation and Recovery Act (RCRA) and amendments; and other legislation and Agency directives related to the characterization, remediation, and monitoring of solid and hazardous wastes. OLEM provides policy, guidance and direction for the Agency's emergency response and waste programs. It develops guidelines for the land disposal of hazardous waste and underground storage tanks. It provides technical assistance to all levels of government to establish safe practices in waste management. It administers the Brownfields program, which supports state and local governments in redeveloping and reusing potentially contaminated sites. It also manages the Superfund program, which responds to abandoned and active hazardous waste sites and accidental oil and chemical releases. Finally, it encourages innovative technologies to address contaminated soil and groundwater.

The mission of the Office of Superfund Remediation and Technology Innovation (OSRTI) is to return contaminated areas of land associated with Superfund sites to communities for safe reuse in a healthy environment.

For more than a decade, OSRTI has provided technical support to EPA Regional offices through the use of third-party optimization evaluations. OSRTI has conducted more than 230 optimization studies at Superfund sites nationwide since 1997.

OSRTI is now in full implementation of its *National Strategy to Expand Superfund Optimization Practices from Site Assessment to Site Completion* (Strategy). The Strategy unifies previously independent optimization efforts (i.e., RSE, LTMO, Triad Approach, and Green Remediation) under the singular activity and term “optimization,” which can be applied at any stage of the Superfund project life cycle. EPA’s working definition of optimization is:

“Efforts at any phase of the removal or remedial response to identify and implement actions that improve the action’s effectiveness and cost-efficiency. Such actions may also improve the remedy’s protectiveness and long-term implementability which may facilitate progress towards site completion. To identify these opportunities, regions may use a systematic site review by a

team of independent technical experts, apply techniques or principles from green remediation or Triad, or apply some other approach to identify opportunities for greater efficiency and effectiveness. Contractors, states, tribes, the public, and PRPs are also encouraged to put forth opportunities for the Agency to consider.”

The Strategy also encourages other activities designed to facilitate better site characterization, remedy selection, and design and construction by applying various techniques and optimization lessons learned to improve a given project’s scope, schedule and cost.

II. OBJECTIVE AND SCOPE

The scope of this Task Order is several-fold: provide expert technical review to identify optimization opportunities at Superfund sites from site assessment to site completion; and to support the further development, implementation, and tracking of the National Strategy. A third objective (Task 4) was introduced in the last modification of the Task Order; to revise the excel spreadsheets contained in Spreadsheets for Environmental Footprint Analysis (SEFA) for use at sites identified in this Task Order and collaterally at other sites around the United States. Former Task 4, Closeout, was renumbered as Task 5.

This amendment adds \$350,000 to start new optimization events at up to an additional 12-14 sites during 2017 for optimization reviews, as described in Tasks 1 and 2, below. Prior site optimization projects are now either completed or ongoing under this Task Order. Prospective sites are identified pursuant to the Strategy and are often unplanned events that emerge as priorities during the course of the year, thus it is not possible to name these sites at this time. The sites will be identified by technical direction.

An Optimization Review includes reviewing site documents, interviewing site stakeholders, potentially visiting the site, and then compiling a report that includes recommendations for protectiveness, cost-effectiveness, technical improvement, site closure, and environmental footprint reduction. The review recommendations are intended to help the site team identify opportunities for improvements in these areas. The optimization reviews may focus on site wide cleanup activities including an analysis of the conceptual site model, nature and extent of contamination, subsurface geology and hydrogeology, operation and maintenance activities, ground water monitoring, and site costs. Alternatively, the optimization review may also focus on one component of the remedy, an operable unit, or a specific system within the operating remedy. The review, when performed at an early stage of the site cleanup lifecycle may focus on providing technical advice in a memorandum form regarding the conduct of a remedial investigation, possibly using the Triad methods, incremental sampling methodologies, high resolution site characterization or 3D visualization techniques. The contractor may be asked to identify new or emerging technologies that could benefit the site cleanup. The Contractor shall provide a summary of findings and recommendations for improving protection of human health and the environment, reducing site costs, technical improvements, opportunities for green remediation, and site closeout. The Contractor shall participate as a member of a team of individuals comprising the *optimization review team*. Additional review team representatives from EPA may participate in the optimization study. For cost estimating purposes, it is anticipated that optimization reviews will be performed at up to fourteen (14) sites in one or more of EPA’s Regions.

The Contractor shall provide a list of key contractor personnel providing support on the work assignment. The Contractor shall provide personnel that have backgrounds appropriate for the type of technologies used at the site and that meet the following qualifications to perform the site visit and/or data analysis. As a general guide, the following technical experts may be required to complete this task order:

Geotechnical Engineer. The geotechnical engineer shall be a Registered Professional Engineer with a minimum of 10 years experience designing geotechnical features at hazardous waste sites containing creosote and related constituents.

Process Engineer. The process engineer shall be a Registered Professional Engineer with a degree in chemical or environmental engineering with a minimum of 15 years experience designing air, soil, and/or water treatment facilities at hazardous waste sites containing creosote and related constituents.

Hydrogeologist. The hydrogeologist shall be a Licensed or Registered geologist with a minimum of 15 years experience in hazardous waste site characterization and design of subsurface remediation systems for sites contaminated with creosote and related constituents.

Chemist. The chemist shall have at least a Bachelor's Degree in Chemistry or must possess an equivalent in graduate or undergraduate college chemistry courses and a minimum of 10 years of experience in the development of Sampling and Analysis Plans for site characterization and operational monitoring.

Regulatory Specialist. The regulatory specialist shall have a minimum of 10 years experience in dealing with and negotiating with regulators on CERCLA and RCRA sites.

Cost Engineer. The cost engineer shall have a Bachelor's degree in the field of civil, structural, environmental, building construction, mechanical, or electrical engineering or in the field of architecture. The cost engineer shall have a minimum of 15 years experience in preparing budget or detailed cost estimates. The cost engineer shall have a experience associated with the development of life cycle cost analyses, value engineering analyses, risk analysis techniques and construction scheduling and shall have experience in using tools such as RACER and MCACES.

Activities needed for an optimization event

Project Kick-off Conference Call. Up to 2 Contractor representatives shall provide logistical support for and participate in a project kick-off conference call for each site with the project manager, EPA technical staff, and others as appropriate. The purpose of the call is to discuss site characteristics and history, goals of the optimization study, schedule, roles and responsibilities, and relevant site documents for review. For cost estimating purposes, each project kick-off call is anticipated to last for 3 hours.

Document Review: The Contractor shall obtain, copy, and review available information and evaluate existing documents and data pertaining to the site. The Contractor shall obtain the necessary information from the COR and from the EPA regional office. The Contractor shall evaluate existing data and documents prior to the project kick-off call described below.

Although this is not a comprehensive list, the follow documents are often reviewed:

- RI Report
- Feasibility study report
- Decision documents (RODs, ROD Amendments, ESDs)
- Design documents
- 'As-Built' documents
- O&M manual
- Modeling reports
- Recent system O&M reports*
- Recent quarterly, semi-annual, or annual site reports*
- Previous 5-year reviews
- Any other relevant documents

Site Meeting: The Contractor shall participate in a site meeting to inspect the site, interview personnel, gather data that was not otherwise available, identify any supplements to this data (as appropriate based on the review of documents and interviews conducted in task 2), shall observe

general site conditions, and document observations as directed by the TOPO. Additional time is provided for Contractor personnel to travel to/from the site.

Data Analysis. As appropriate to the site conditions and the scope of the optimization review, the Contractor shall evaluate the following components:

- Conceptual Site Model (CSM): The Contractor shall determine if the CSM adequately identifies (1) historical and continuing sources of ground water contamination, both above ground and below the surface, (2) historical growth and/or retreat of the ground water plume, (3) ground water flow velocity (horizontal and vertical) and other parameters controlling contaminant fate and transport, (4) potential human and ecological receptors, and (5) anticipated results of remedial actions, data gaps.
- Nature and extent of ground water contamination including source(s) of contamination, contaminants of concern (COCs), estimated extent and volume of contaminated plume and the potential for migration of the contaminant plume.
- Geology and hydrogeology of the site and surroundings (in addition to the topography and geography), including the following:
 - Aquifer(s) affected or threatened by site contamination, types of geologic materials, approximate depths, whether aquifer is confined or unconfined.
 - Ground water flow directions within each aquifer and between aquifers and ground water discharge locations (e.g., surface waters, wetlands, other aquifers).
 - Interconnection between surface contamination (e.g., soils) and ground water contamination
 - Confirmed or suspected presence and location of NAPLs.
 - Site ARARs
- Operating Remedies. The Contractor shall evaluate the operating remedies with respect to subsurface performance, protectiveness of human health and the environment, above ground treatment components, process monitoring, discharge operating labor, frequency and quality of monitoring reports. The optimization review will evaluate key parameters such as influent rate, mass loading, individual constituent concentrations, discharge criteria, and operating costs. The optimization review will also evaluate each actual performance if already installed, relevant performance monitoring, and alternative technologies, components, or approaches that could provide the same function more efficiently or effectively.
- Green Remediation. The Contractor shall evaluate opportunities for generating and using renewable energy and opportunities to reduce the environmental footprint of site operations.
- Cost Analyses. The Contractor shall develop screening level costs for the recommended changes. Any cost estimate shall be developed using the current cost estimating tools such as RACER or appropriate professional experience. The Contractor shall contact vendors for quotes on equipment, supplies, and services, as appropriate. The Contractor shall not divulge the site name to the vendors contacted in the process of getting quotes. The cost analysis shall estimate the following.
 - Capital costs for changes
 - Projected changes in projected O&M costs
 - Projected reductions in remedy duration

- Closure (Exit) Strategy. The Contractor shall identify a path forward to site closeout and delisting or reuse of the site including identifying metrics which will demonstrate that the site has been cleaned up.

Report. The Contractor shall prepare an optimization review report documenting review findings and recommendations. The report shall be concise, clearly written, and free from typographical and grammatical errors. The report shall conform to the EPA Style Guide. The report shall be provided in electronic format in Microsoft Word and Adobe Acrobat. The report is expected to range between 20 and 50 pages, including appendices, depending on site complexity and scope of the review. The Contractor shall prepare draft and final reports for review by EPA and other project stakeholders. The final report shall be prepared within 30 days of receipt of all comments. The format for the report will be specified by the TOPO.

III. GENERAL

In conducting this task order EPA expects the contractor to propose the most appropriate and cost-effective procedures and methodologies using accepted engineering practices and controls. Throughout the performance on this task order, the Contractor will be responsible for performing services and providing products using the most cost-efficient mix of qualified personnel applicable to meet the needs of the task order. The technical volume of the work plan should include the personnel assigned to the project, resume and respective duties associated with the task order.

IV. TASK ORDER TASKS

The contractor shall furnish personnel, services, materials and equipment to support the technical assistance activities identified in this task order. The following work breakdown structure shall be used for project scoping, scheduling, technical, and cost tracking, and reporting.

TASK 1 PROJECT PLANNING AND SUPPORT

This task includes work efforts related to project initiation, management and support. Activities required under this task include:

- 1.1 Attend scoping meeting with EPA to discuss the task order.
- 1.2 Develop and submit a work plan. The work plan will be submitted in two volumes. Volume 1 will contain a discussion of how the contractor will perform the tasks assigned, planning assumptions, staff assigned with their responsibilities by task, an organizational chart, timelines and deliverables. Volume 1 will contain no CBI. Volume 2 will contain cost data and will be considered CBI. Schedules and supporting detail should be provided in Volume 2 sufficient for EPA to evaluate the cost proposal for the project.
- 1.3 Based on EPA's review of the work plan, the contractor may be called upon to participate in negotiations with EPA of the work plan and to revise the work plan as a result of these negotiations or comments made regarding the work plan.
- 1.4 The contractor shall provide a conflict of interest disclosure for the task order.
- 1.5 The contractor shall perform task order specific project management including:
 - Establishment and maintenance of necessary task order files.

- Perform contract administration functions associated with this task order.
- Coordination of monthly reporting and invoices.
- Monitor overall costs and performance.
- Coordinate staffing and other support activities to perform the task order tasks in accordance with the SOW including Team subcontractors and other subcontractors.
- Attend necessary project planning meetings.

Task 1. Is needed and will continue under this Modification 8. 012316 kirbybiggs.

TASK 2. EXPERT TECHNICAL ASSISTANCE

This task includes providing expert knowledge or assistance to the EPA in a variety of technical areas. Activities required under this task include: Provide optimization support at TBD Site by technical direction, as described below.

The contractor shall:

- 2.1 Attend technical meetings.
- 2.2 Provide assistance in the review of technical documents relating to the site or technology application.
- 2.3 Provide assistance in the development of technical documents or site technology applications.
- 2.4 Conduct the support in accordance with the process described in the scope of work, above, including the logistical support of arranging the conference calls and meetings and note-taking and maintenance of records.
- 2.5 Prepare a draft optimization report of the assessment based on recent EPA templates for these reviews. This draft report is expected within 45 days of the site visit or site conference call if a site visit is deemed unnecessary. Depending on site complexity and extent of the review an additional 15-25 days for the draft report may be granted, at the direction of the TOPO.
- 2.6 Provide the draft report to the TOPO for circulation to the optimization team for the site.
- 2.7 Upon receipt of comments from the TOPO and the optimization team, vet comments and modify the report accordingly, then produce a draft final report. Usually one round of comments is expected but two rounds may be necessary for one or more of the anticipated sites.
- 2.8 Finalize the report.
- 2.9 Prepare the Final Report as 508 compliant and provide the copy to TOPO for posting on the Clu-in web page.

Task 2 change:

Ongoing work will continue under this task for sites underway and up to 14 more sites to be identified in FY2017 and additional funding is provided through Modification 8 to accomplish this objective. 031617 kirbybiggs

TASK 3. Support implementation of the National Optimization Strategy

3.1 – Assemble lessons learned from optimization technical support

- Identify and compile lessons from the collection of findings and recommendations from the optimization technical support projects conducted
- Deliverables: Present the findings to TOPO in a power point presentation or white paper, as specified by TOPO direction, at 6 months and 12 months or earlier, if by technical direction.

3.2 – Support the tracking of optimization recommendations for projects conducted by EMS

- Identify and list optimization recommendations in a summary table for use in annual tracking of optimization recommendations.
- Assist in conference calls to answer optimization questions, helping guide the interviews as needed.

Task 3 change: An assemblage of lessons learned that can be applied to other mining “Districts” and optimization sites will continue to be needed for Modification 8. 031617 kirbybiggs

Task 4

Contractor shall provide the following support in reviewing the spreadsheets for environmental footprint analysis (SEFA) developed by EPA for use conducting optimization and footprint assessments at EPA sites. SEFA spreadsheets are available at clu.in.org. This update will be used, as appropriate, at sites contained in this task order.

a) Structure/Data: Add footprint conversion factors (to be provided by EPA ORD) for new materials and off-site support activities. This may require adding new items to drop-down menus and could include new metrics (off-site water usage and off-site waste generation).

b) Restructure the approach for estimating emissions from fuel combustion (on-site and transport) to reflect updated emissions factors to be provided by ORD. May require setting up additional look-up tables for different emission factors for a variety of on-site and transport activities and reorganizing data entry tables in the “Input” tab

c) Add flexibility to inputs for grid electricity for the “other” category in the grid mix. Currently “other” conversion factors can be designated only for one grid mix.

d) Add ability to specify user-defined factors for: Emissions from fuel combustion (on-site and transport), Water usage, and Transport vehicles (for personnel or materials).

e) Regarding the spreadsheet outputs, Contractor shall add output charts for “key contributors” for energy and air emissions and update the summary table to include the following (or provide a separate summary table for them):

- Total waste that has been recycled
- Wastewater generated
- (possibly) water used in off-site processes
- (possibly) waste generated in off-site processes

f). The SEFA documentation/Instructions shall be updated to check newly added notes and instructions for accuracy and clarity and check tutorial (to be completed by EPA after updates are made) for clarity and usefulness.

EPA recommends a conference call with the EPA Technical Leads for Green Remediation and SEFA and the Contractor leads to clarify these tasks and direction.

Task 4 change: Ongoing work will continue under this task and current available budget for Modification 8. 031617 kirbybiggs

TASK 5. TASK ORDER CLOSE OUT

This task includes efforts related to task order closeout. Activities required under this task include:

- 3.1 Upon notification by EPA, the contractor shall begin all internal procedures necessary to closeout the task order including any file duplication, distribution, storage or archiving per the contract requirements.
- 3.2 The contractor shall return documents identified to EPA or other document repositories as directed.
- 3.3 The contractor shall prepare a Task Order Completion Report (TOCR) in accordance with the contract and using the specified Regional format.

Task 5 change: Task order closeout is not needed for Modification 8. 031617 kirbybiggs

V. PERIOD OF PERFORMANCE

1/1/2016- 12/31/2017

VI. SCHEDULE OF DELIVERABLES/MILESTONES

TASK	DELIVERABLE	DUE DATE
2	Draft Optimization Report for Site 1	TBD
2	Final Optimization Report for Site 1	TBD
2	Draft Optimization Report for Site 2	TBD
2	Final Optimization Report for Site 2	TBD
2	Draft Optimization Report for Site 3	TBD
2	Final Optimization Report for Site 3	TBD
2	Draft Optimization Report for Site 4	TBD
2	Final Optimization Report for Site 4	TBD

2	Draft Optimization Report for Site 5	TBD
2	Final Optimization Report for Site 5	TBD
2	Draft Optimization Report for Site 6	TBD
2	Final Optimization Report for Site 6	TBD
4	Updated SEFA spreadsheet	TBD

VII. PERFORMANCE CRITERIA

The contractor's deliverables will be inspected by the government for acceptability. Unacceptable deliverables will be returned to the contractor with comments and directions for necessary corrections or rework which may be applicable.

VIII. EPA CONTACTS

Task Order Project Officer (TOPO): Kirby Biggs 703-823-3081- biggs.kirby@epa.gov

Project Officer (PO): Debra Dorsey
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